

DRAFT

ENVIRONMENTAL ASSESSMENT

ESTRELLA FREEWAY, SR 303L
43rd AVENUE TO I-17

ADOT PROJECT NO. NH-303-B (AJX)
TRACS NO. 303L MA 003 H5946 01L

Prepared by

ARIZONA DEPARTMENT OF TRANSPORTATION

August 2006

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ENVIRONMENTAL PLANNING GROUP

205 South 17th Avenue
Phoenix, Arizona 85007

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for

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This Draft Environmental Assessment has been prepared in accordance with the provisions and requirements of Title 23, Code of Federal Regulations, Part 771, relating to the implementation of the National Environmental Policy Act of 1969 (42 U.S. Code 4332 (2)(c)).

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LIST OF ACRONYMS

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
$^{\circ}\text{F}$	degrees Fahrenheit
ADA	Arizona Department of Agriculture
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
APS	Arizona Public Service Company
ASLD	Arizona State Land Department
AZPDES	Arizona Pollutant Discharge Elimination System
BLM	Bureau of Land Management
C-D road	collector-distributor road
CAP	Central Arizona Project
CFR	Code of Federal Regulations
cfs	cubic feet per second
CO	carbon monoxide
Corps	U.S. Army Corps of Engineers
dB	decibels
dBA	A-weighted decibels
DEA	Draft Environmental Assessment
EA	Environmental Assessment
EDR	Environmental Data Resources, Inc.
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
HOV	high-occupancy vehicle
Hz	hertz
I-17	Interstate 17
kV	kilovolt
L_{eq}	equivalent sound level
$L_{eq}(h)$	1-hour L_{eq}
L RTP	Long Range Transportation Plan

MAG	Maricopa Association of Governments
MCDOT	Maricopa County Department of Transportation
MCESD	Maricopa County Environmental Services Department
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act of 1969
NO ₂	nitrogen dioxide
O ₃	ozone
Pb	Lead
PM ₁₀	particulate matter equal to or smaller than 10 microns in diameter
PM _{2.5}	particulate matter equal to or smaller than 2.5 microns in diameter
ppm	parts per million
Ramp EN	eastbound-to-northbound ramp
RTP	Regional Transportation Plan
SO ₂	sulfur dioxide
SR	State Route
URS	URS Corporation
U.S.C.	U.S. Code
USGS	U.S. Geological Survey

MITIGATION MEASURES

Mitigation measures have been defined to avoid or minimize the environmental impacts of the proposed project. These mitigation measures are not subject to change without prior written approval from the Federal Highway Administration.

Design Responsibilities

1. During final design, coordination with the U.S. Army Corps of Engineers would occur to complete the jurisdictional delineation to formally define whether washes are jurisdictional waters of the United States, and identify permit requirements under Sections 401 and 404 of the Clean Water Act (page 4-9).
2. Removal or disturbance of vegetation would be minimized through project design as practicable. In areas where native vegetation must be removed, would restore to natural conditions by reseeding with species native to the area and replacing trees and shrubs with native species instead of landscaped exotic species. All disturbed soils not landscaped or otherwise permanently stabilized by construction would be seeded using species native to the project vicinity (refer to page 4-16).
3. Retaining walls would be constructed of materials that complement the surrounding landscape's colors and textures. In addition, retaining walls associated with any rock cuts would be compatible with the rugged forms, textures, colors, and lines of the surrounding setting and with those of the new retaining walls, to the extent practicable (page 4-20).
4. Project features would be designed to blend with the desert nature of their surroundings, to the extent practicable (page 4-20).
5. During final design, the Arizona Department of Transportation project manager would contact the Arizona Department of Transportation Environmental Planning Group hazardous materials coordinator (602-712-7768) to determine the need for additional site assessment (page 4-37).
6. The Arizona Department of Transportation Utility and Railroad Engineering Section would coordinate utility involvement during the project design phase (page 4-48).
7. Because one or more acres of land would be disturbed, the Arizona Department of Transportation Roadside Development Section would determine during final design who would prepare the Stormwater Pollution Prevention Plan (page 4-8).

8. During the next phase of design, the Arizona Department of Transportation would consult with the Federal Emergency Management Agency to identify whether a Letter of Map Revision would be required (page 4-8).
9. Removal or disturbance of vegetation would be minimized through project design as practicable. In areas where native vegetation must be removed, natural conditions would be restored by reseeding with species native to the area, and by replacing trees and shrubs with native species instead of landscaping with exotic species (page 4-11).
10. The sizing and placement of culverts along drainage and wash crossings would maintain habitat connectivity opportunities after construction, by allowing Sonoran desert tortoise to pass through them. During final design, Arizona Department of Transportation would coordinate with Arizona Game and Fish Department to address further concerns regarding habitat connectivity (page 4-11).

Arizona Department of Transportation Responsibilities

1. Because more than one acre would be disturbed, an Arizona Pollutant Discharge Elimination System/National Pollutant Discharge Elimination System permit would be required. The Arizona Department of Transportation District Construction Office and the contractor would submit the Notice of Intent and the Notice of Termination to the Arizona Department of Environmental Quality and U.S. Environmental Protection Agency (page 4-8).
2. Protected native plants within the construction limits would be impacted by the proposed project; therefore, the Arizona Department of Transportation's Roadside Development Section would notify the Arizona Department of Agriculture at least 60 days prior to the start of construction so that the Arizona Department of Agriculture can determine the disposition of these plants (refer to page 4-16).
3. The Arizona Department of Transportation Construction District would provide a construction notice to adjacent residents and businesses at least two weeks prior to construction (page 4-45).
4. If suspected hazardous materials are encountered during construction, work would cease at that location and the Arizona Department of Transportation Engineer would arrange for proper assessment, treatment, or disposal of those materials (page 4-35).
5. During construction, traffic control would be implemented in accordance with Part VI of the *Manual on Uniform Traffic Control Devices for Streets and Highways*, published by the

Federal Highway Administration (1993), *Traffic Control Supplement* (1996), and/or associated provisions in the project plans as determined by the Arizona Department of Transportation Traffic Design Section during design (page 4-45).

Contractor Responsibilities

1. All discarded waste (including but not limited to human waste, trash, debris, oil drums, fuel, ashes, equipment, concrete, and chemicals) generated during construction activities would be removed and/or disposed of according to federal and state regulations (page 4-35).
2. The contractor would adhere to the Arizona Game and Fish Department's *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects*, found in Appendix C (page 4-14).
3. All disturbed soils that would not be landscaped or otherwise permanently stabilized by construction would be seeded using species native to the project vicinity (page 4-16).
4. To prevent the introduction of invasive species seeds, all construction equipment would be washed prior to entering the construction site. To prevent invasive species seeds from leaving the site, the contractor would inspect all equipment and remove attached plant/vegetation debris prior to leaving the construction site. (page 4-16).
5. Construction of the project would comply with *Maricopa County Air Quality Rule 310 – Fugitive Dust Sources* and any required air quality permits (page 4-30).
6. Because more than one acre would be disturbed, an Arizona Pollutant Discharge Elimination System/National Pollutant Discharge Elimination System permit would be required. The Arizona Department of Transportation District Construction Office and the contractor would submit the Notice of Intent and the Notice of Termination to the Arizona Department of Environmental Quality and U.S. Environmental Protection Agency (page 4-8).
7. Construction of the project would comply with *Maricopa County Air Quality Rule 310 – Fugitive Dust Sources* and any required air quality permits (refer to page 4-30).

Standard Specifications included as Mitigation Measures

1. According to the Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction* (ADOT 2000), Section 107, "Legal Relations and Responsibility to Public," Subsection 05, "Archaeological Features," "[w]hen previously unidentified

archaeological, historical, or paleontological features are encountered or discovered during any activity related to the construction of the project, the contractor would stop work immediately at that location and would take all reasonable steps to secure the preservation of those resources and notify the Engineer.” The Arizona Department of Transportation Engineer would, in turn, notify the Environmental Planning Group Historic Preservation Team (602-712-8636) to evaluate the significance of the resources (page 4-39).

2. According to the Arizona Department of Transportation *Standard Specifications for Road and Bridge Construction* (ADOT 2000), Section 104, “Scope of Work,” Subsection 08, “Prevention of Air and Noise Pollution,” “[t]he contractor would control, reduce, remove or prevent air pollution in all its forms, including air contaminants, in the performance of the contractor’s work.” The contractor would comply with all air pollution ordinances, regulations, orders, etc., during construction. All dust-producing surfaces would be watered or otherwise stabilized to reduce short-term impacts associated with an increase in particulate matter attributable to construction activity (page 4-30).
3. According to the Arizona Department of Transportation *Standard Specifications for Road and Bridge Construction* (ADOT 2000), Section 104, “Scope of Work,” Subsection 08, “Prevention of Air and Noise Pollution,” “[t]he contractor would comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract. Each internal combustion engine used for any purpose on the work or related to the work would be equipped with a muffler of a type recommended by the manufacturer” (page 4-34).
4. According to Arizona Department of Transportation’s *Standard Specifications for Road and Bridge Construction* (ADOT 2000), Section 104, “Scope of Work,” Subsection 09, “Prevention of Landscape Defacement; Protection of Streams, Lakes, and Reservoirs,” “[t]he contractor would give special attention to the effect of its operations on the landscape and would take special care to maintain natural surroundings undamaged” (page 4-9).
5. According to the same specification, Arizona Department of Transportation would ensure that “[t]he contractor would take sufficient precautions, considering various conditions, to prevent pollution to streams, lakes, and reservoirs with fuels, oils, bitumens, calcium chloride, fresh Portland cement, raw sewage, muddy water, chemicals, or other harmful materials. None of these materials would be discharged into any channels leading to such streams, lakes, or reservoirs” (page 4-9).

6. According to Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction* (ADOT 2000), Section 107, "Legal Relations and Responsibility to Public," Subsection 07, "Sanitary, Health, and Safety Provisions," should the contractor encounter potential hazardous or contaminated material, the contractor would immediately stop work and remove workers, barricade the area, provide traffic controls and notify the Engineer. The Engineer would arrange for proper assessment, treatment, or disposal of those materials. Such locations would be investigated and proper action implemented prior to the continuation of work in that location (page 4-37).
7. According to Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction* (ADOT 2000), Section 1001, "Material Sources," Subsection 2, "General," any material sources required for this project outside of the project area would be examined for environmental effects, by the contractor, prior to use, through a separate environmental analysis (page 4-48).
8. According to Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction* (ADOT 2000), Section 107, "Legal Relations and Responsibility to Public," Subsection 11, "Protection and Restoration of Property and Landscape," "[m]aterials removed during construction operations such as trees, stumps, building materials, irrigation and drainage structures, broken concrete, and other similar materials would not be dumped on either private or public property unless the contractor has obtained written permission from the owner or public agency with jurisdiction over the land. Written permission would not be required, however, when materials are disposed of at an operating, public dumping ground." The contractor would dispose of excess waste material and construction debris at a municipal landfill approved under Title D of the Resource Conservation and Recovery Act, construction debris landfill approved under Article 3 of the Arizona Revised Statutes 49-241 (Aquifer Protection Permit) administered by the Arizona Department of Environmental Quality, an inert landfill, or at another approved site (page 4-49).

CHAPTER 1 – INTRODUCTION

1.1 EXPLANATION OF ENVIRONMENTAL ASSESSMENT

The environmental assessment (EA) process provides steps and procedures to evaluate the potential social, economic, and environmental impacts of a proposed project while providing an opportunity for the public and local, state, or federal cooperating agencies and tribes to provide input and/or comment. These social, economic, and environmental considerations are evaluated and measured, as defined in the Council on Environmental Quality regulations, by the magnitude of potential impacts.

Because the proposed project involves a change of access on an Interstate freeway, it has been analyzed by the Federal Highway Administration (FHWA) via this Draft Environmental Assessment (DEA) document in accordance with the National Environmental Policy Act of 1969 (NEPA) and the policies of the FHWA. This DEA provides a detailed analysis to examine and consider the level of impacts resulting from the proposed project on any sensitive, social, and environmental resources, and assists in the decision-making process.

1.2 LOCATION AND DESCRIPTION OF THE PROPOSED PROJECT

The Arizona Department of Transportation (ADOT) proposes to construct a system interchange to link the eastern end of the planned SR 303L freeway extension, which would extend from Happy Valley Road to 43rd Avenue, with Interstate 17 (I-17). This proposed project also includes a service interchange at SR 303L and 43rd Avenue and service interchanges on I-17 at Dixileta Drive, Lone Mountain Road, and Dove Valley Road.

The proposed project is located in Maricopa County, Arizona, in the northwestern portion of the greater Phoenix metropolitan area (Figure 1-1, Figure 1-2). The project study area is located in undeveloped desert along and west of I-17 and south of State Route 74 (SR 74). The proposed project extends from the 43rd Avenue section line east to I-17, with the study boundary for the project defined as one-half-mile from the proposed project centerline in any direction (Figure 1-3).

1.3 BACKGROUND AND OVERVIEW

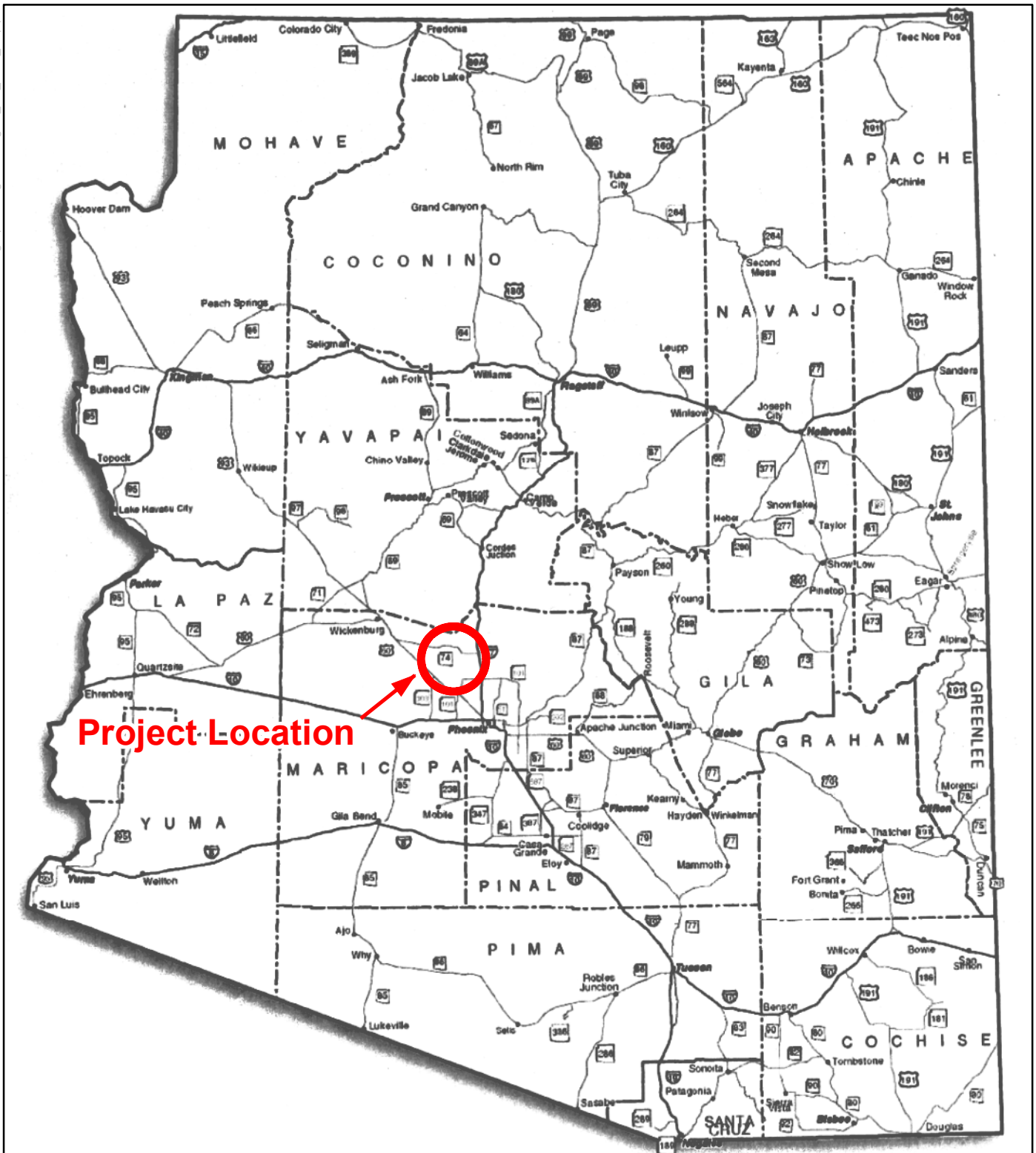
The concept for SR 303L was developed initially in the *West Area Transportation Analysis* prepared for the Maricopa Association of Governments (MAG) in 1984. This analysis identified the long-term need for a freeway that would extend from SR 85 to I-17 through what were then the outer reaches of the greater Phoenix metropolitan area. The general corridor for this freeway

was referred to as Cotton Lane/Northwest Loop. In that study, the proposed freeway was anticipated to join I-17 near the Dixileta Drive section line.

The corridor was renamed the Estrella Corridor in 1986, and was planned for construction during the 20-year period following the voter-approved half-cent sales tax increase in 1985. The State Transportation Board redesignated the Estrella Corridor as SR 303L in 1987.

By 1994, because of funding shortcomings, the proposed SR 303L was removed from the funded program and the MAG long-range plan. Maricopa County and the State of Arizona reached agreement that Maricopa County, through its Department of Transportation (MCDOT), would be the caretaker of the corridor. In 1998, MCDOT began a series of studies to revive the project development process for the proposed SR 303L between I-10 and I-17. In 2001, the MAG Regional Council recommended Lone Mountain Road as the preferred location for the SR 303L connection to I-17. Additional studies conducted throughout 2003 and 2004 also recommended the Lone Mountain location (URS 2004c, 2003a). In 2004, MCDOT opened to traffic an interim four-lane roadway along the SR 303L route from US 60 to Happy Valley Parkway and a portion of Happy Valley Parkway linking Vistancia Boulevard to Lake Pleasant Parkway to serve as the interim SR 303L route.

The context for the development of the SR 303L corridor includes substantial projected population growth and development. MAG forecasts that the population within the northwestern portion of the Phoenix metropolitan area, which includes the areas most likely to be affected by the proposed SR 303L implementation, would grow to 1.86 million in 2030. A traffic analysis based on the 2030 MAG forecasts was conducted to determine the need for a new freeway to address future traffic demand (URS 2005a). The result of the analysis clearly indicated a pattern of congestion on both the north-south and east-west arterials without the completion of SR 303L. Traffic volumes forecast for 2030 are an average of 33 percent higher on the arterial system if SR 303L is not included. Based on this analysis, it was concluded that within the northwestern Phoenix metropolitan area, a 2030 arterial transportation system without SR 303L would experience a pattern of congestion and, on a number of key arterials, heavy congestion and associated delays would occur.



Legend

 Project Location



0 30 60
Miles

**Estrella Freeway (SR 303L),
43rd Avenue to I-17**

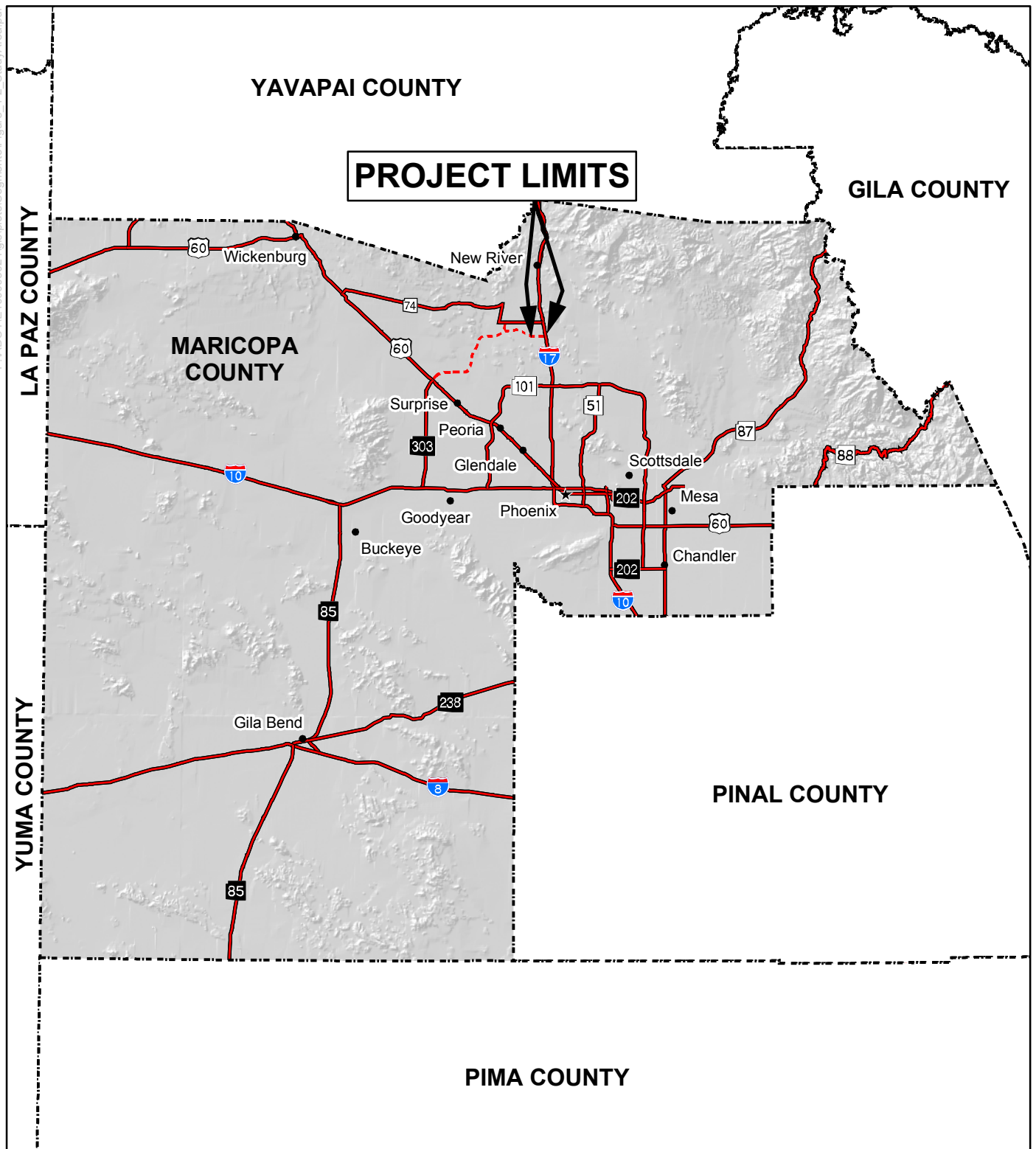
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State Map



Figure 1-1

Source:
-Arizona Department of Transportation, 2004.





Legend

- Proposed Highway
- Major Transportation Route
- City or Town
-  Interstate Highway
-  US Highway
-  State Route

Source:
-Arizona Land Resource Information System, 1997.
-Map created with TOPOI(tm) (c)2002 National Geographic Holdings (www.topo.com).

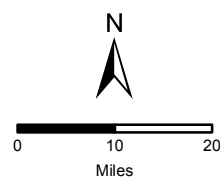


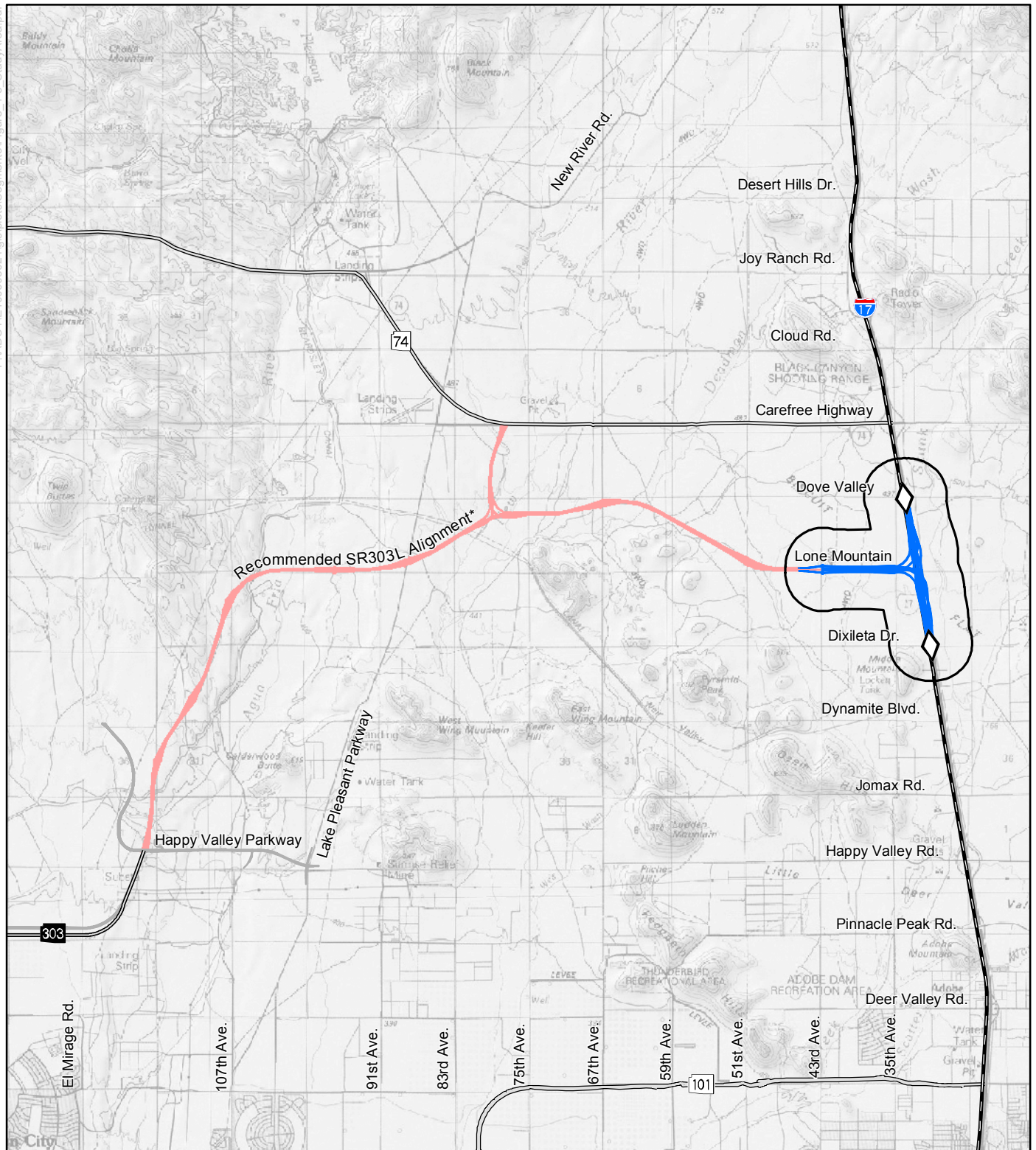
Estrella Freeway (SR 303L), 43rd Avenue to I-17

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County Map

Figure 1-2





Legend

- Proposed Project
- Study Boundary
- Recommended SR303L Alignment*
- Interstate/Highway
- State Route
- ◇ Proposed Traffic Interchange

*The recommended alignment is being evaluated in a separate EA.

Source:
 -Arizona Land Resource Information System, 1997.
 -Map created with TOPOI(tm) (c)2002 National Geographic Holdings (www.topo.com).



Estrella Freeway (SR 303L) 43rd Avenue to I-17

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Vicinity Map

Figure 1-3

